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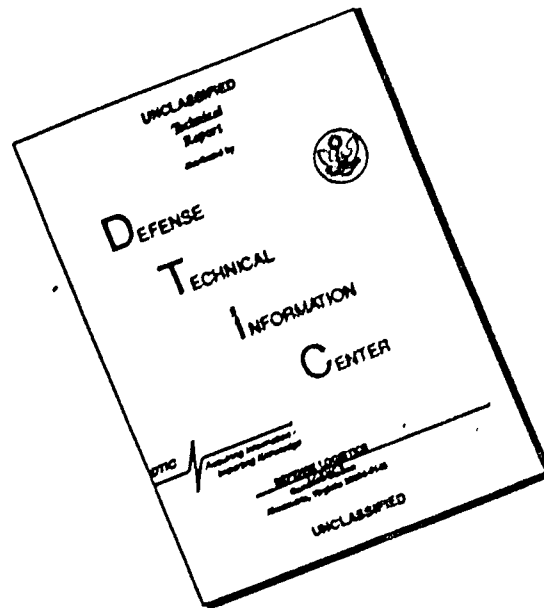
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**DEPARTMENT OF THE ARMY  
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IN REPLY REFER TO

AGDA (M) (20 Jan 70) FOR OT UT 694281

28 January 1970

**SUBJECT: Operational Report - Lessons Learned, Headquarters, 70th  
Engineer Battalion, Period Ending 31 October 1969**

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2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

**BY ORDER OF THE SECRETARY OF THE ARMY:**

*Kenneth G. Wickham*

**KENNETH G. WICKHAM  
Major General, USA  
The Adjutant General**

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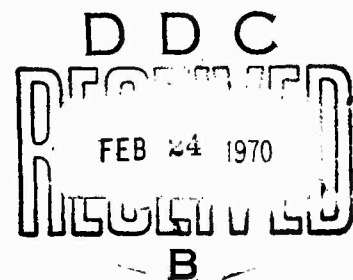
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70th Engineer Battalion

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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 70TH ENGINEER BATTALION (COMBAT) (ARMY)  
APO 96297

31 October 1969

SUBJECT: Operational Report of 70th Engineer Battalion (C) (A) for Period  
Ending 31 October 1969, RCS, CSFOR-65 (R1)

Commanding Officer  
35th Engineer Group (Const)  
APO 96312

Commanding General  
18th Engineer Brigade  
APO 96317

Commanding General  
United States Army, Vietnam  
ATTN: AVHGO-DST  
APO 96375

Commander-in-Chief  
United States Army, Pacific  
ATTN: GPOF-DT  
APO 96558

Assistant Chief of Staff for Force Development  
Department of the Army (ACSFOR-DA)  
Washington, D.C. 20310

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1. Section 1, Significant Organizational or Unit Activities.

a. Command

(1) LTC James E. Hays retained command of the 70th Engineer Battalion (C)(A) during the entire period, relinquishing command on 31 October 1969 to Major Richard E. Works, who became acting commander until the arrival of LTC James McKnight, expected on 5 November 1969.

(2) All companies except D Company changed commanders during this period. In A Company, Cpt David A. Corbett replaced Cpt John J. Rice, who became Battalion Maintenance Officer, on 11 August. On 10 August Cpt Charles A. Myers assumed command of B Company, replacing 1Lt Elliott P. Herbert, who remained with the unit as Executive Officer. On 9 August, 1Lt Stanley D. Lee was replaced by 1Lt Robert L. Shaw as commander of C Company. Finally on 19 August Cpt Dennis K. Lutz took command of Headquarters Company from 1Lt James R. Denison.

(3) On 11 August, Major Philip J. Galanti Jr became Battalion Operations Officer, replacing Cpt Brent C. Wright who remained as Assistant Operations Officer. On that same day, Major Richard E. Works became Battalion Executive Officer.

b. Personnel, Administration, Morale, Discipline

(1) The battalion maintained an average assigned strength of 98 per cent authorized EMs and 83 per cent authorized officers. The 630th Engineer Platoon (LE) averaged 98 per cent EM and 100 per cent officers. The high percentage of battalion strength comes from a manning level reduction from 773 to 665.

(a) The authorized and assigned strength of the battalion as of the end of the quarter was as follows:

	<u>Authorized</u>	<u>Assigned</u>
Enlisted	665	652
Officer	36	29

(b) The authorized and assigned strength of the 630th Engineer Company (LE) 1st Platoon as of the end of the quarter was as follows:

	<u>Authorized</u>	<u>Assigned</u>
Enlisted	39	42
Officer	1	1

(2) The short gap of personnel holding critical MOS's which existed last quarter has decreased this quarter. The only critical shortage which still exists is that of MOS 12B43, Engineer Squad leader. The Battalion,

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as of 31 October 1969, maintained an authorization of 40, but had only 14 assigned. In many cases, the shortages of assigned personnel were made up by those 12B40's who had been promoted within the Battalion and were in grade E-5.

(3) The only moves experienced by the Battalion were the move of A Company from Khanh Duong to Camp Jerome, Ban Me Thuot, on 31 October in preparation for the Battalion's return to CONUS for deactivation at the end of November, and the loss of the 131st Engineer Company (LE) on 1 September, when the unit returned to CONUS. The 131st Engineer Company (LE) was replaced the 1st Platoon, 630th Engineer Company (LE).

(4) Unit morale remained high. With the completion of the guard towers, the guard commitment was reduced, giving the men more time off. The news, made general on 8 October, that the Battalion was returning home in late November, also boosted morale, and gave many men an increased desire to finish the work we had to do.

(a) An average of 29 Article 15's per month were administered for the Battalion. There were 19 field grade Article 15's and 68 company grade Article 15's during the quarter. Also during the period, there were 4 Summary, and 16 Special Court Martials.

(b) The Battalion Chaplain conducted Protestant services weekly at the Battalion base camp and Hot Rocks quarry. The Catholic Chaplain from MACV also gave services weekly at Camp Jerome and at Hot Rocks.

c. Intelligence and Counter-Intelligence

(1) during the quarter, the S-2 section performed its mission of collecting and disseminating intelligence, of being a repository for all secret documents and of coordinating all secret documents and of coordinating civic action, MEDICAP and PSYOPS.

(a) intelligence reports are obtained daily from parlac sector and the 23rd Division, ARVN, in Ban Me Thuot. This information is disseminated at evening staff meetings, at the weekly commanders conference and as the situation warrants.

(b) In the area of civic action, many projects were undertaken under the supervision of the S-2 section:

(1) Land clearing on QL-14: The road to Buon Ju off of QL-14 was graded; cleared of under brush for approximately 50 meters on each side of the road, and the Vietnamese were assisted in emplacing a 48"x14' culvert. This project was worked on for approximately one month.

(2) A firing range was built for Montgnard popular Forces Training Camp, BMT. A dozer was furnished for four (4) days and assistance was obtained from the Special Forces Advisor Team, MACV.

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(3) A lot of land clearing was done and several new roads were built for the 45th ARVN Camp. This project lasted for about a month intermittently.

(4) Wells and holes were dug for latrines during August for the pent-guard village of Chur Tara. There was approximately 5 days work on this project, for 2 E1 and one multihoe.

(5) A 5-ton dump truck and bucket loader were provided with operators for cleaning up trash in Ban Me Thuot city. This was done every month for about 5 days per month.

(6) The medical section, with security from S-2, has made 2 medcaps at Buon Ky and 1 at Buon Dha Prong. Approximately 60 to 100 patients were treated on each medcap. The medics have also gone to the 23rd ARVN Bn four times treating small children.

(7) A total of 363 man-days were expended on civic action under the control of the S-2 section.

d. plans, operations and training

(1) plans - during the period 1 August 1969 to 31 October 1969, the 70th Engineer Battalion (C)(A) performed its mission which was to:

(a) command assigned and attached units.

(b) Plan and coordinate operations of units assigned or attached to the Battalion.

(c) provide non-divisional engineer support required for tactical operations in the Battalion area of responsibility.

(d) Actively maintain a perimeter defense at all base camp and job sites occupied by the Battalion or subordinate units and to defend assigned perimeters against enemy attack.

(2) combat/operational support

A COMPANY

(a) Mine sweep - A daily reconnaissance (visual) mine sweep is made from BQ534146 to BQ539110 on the access road leading from the company area to QL-21. To this date, no mines have been found on the access road.

(b) Bypass Repair QL-21/27 - Bypass 21/27 was partially washed out due to excessive rainfall. A company, 70th Engineer Battalion reinforced the headwalls using 30 feet of 4x12 inch material. 24 cubic yards of blast rock was then hauled in to fill in behind the repaired headwalls, and an additional 72 cubic yards of base course material was used to restore the roadway to a passable condition.

(c) Bridge 21/26.4 - Due to the prevailing weather conditions, it was necessary that A company, 70th Engineer Battalion do repair work on the west

side approach-way to Bridge 21/28.4. The existing rock and fill was removed and replaced with a cold mix consisting of three cubic yards of sand, three cubic yards of 3/4 inch minus, and two barrels of RC-3. The materials were mixed, spread, and tamped to bring the approach to the level of the bridge.

(d) Reconnaissance for sand - A great need for sand has arisen in the 70th Engineer Battalion's area of responsibility due to the large quantity of concrete being used. A Company, 70th Engr Bn has been sending personnel around the area to recon for sand. At the present, we have sand at two locations. One site is located along the E. Krang River at BQ516124. This site has proved to have a limited quantity of sand which is at this time, almost gone. The second site is located along the E. Krang River at BQ539118. This site has the best sand, but due to the weather conditions, it is almost impossible to get the sand out without a crane and clam shell. Work is being done to improve the access road to this sand pit so when the weather breaks, it will be easy to get the sand out.

(e) Base camp security - A Company, 70th Engr Bn continued improving its base camp security by installing a tangle foot between the first and second row of concertina wire. Also they installed noise makers in the wire and did patch work on the existing concertina wire wherever necessary. The condition of trip flares was checked and new trip flares were added wherever needed.

(f) B Battery, 5/22 Artillery - The first platoon of A Company, 70th Engr Bn was given the mission of building a fire base for B Battery, 5/22 Artillery. They constructed four (4) gun pads, each 30 feet in diameter, using 600 bags of cement, 60 cubic yards of 3/4 inch minus rock, and 40 cubic yards of sand. A mess hall pad consisting of three 16x32 foot pads was also poured using 135 bags of cement, 12 cubic yards of 3/4 inch minus rock, and eight (8) cubic yards of sand. Two latrines were constructed from 2"x4" and 1"x6" material. The project was stopped due to lack of materials.

#### B COMPANY

B Company performed one combat/operational support type mission during the quarter. Because of their location, at the quarry site, they were primarily used for LOC maintenance and upgrade. The only operational support mission was the repair of Duc Lap Airfield. For this mission, four men were kept at the site, with a 3/4-ton truck and an airmobile compactor to stabilize soft areas on the runway, and repair the T-17 membrane covering that was covering the runway and taxiway. On 31 October, permission was received to tear off the membrane, and a squad plus equipment from B Company prepared to move down to accomplish this on 2 November.

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### C COMPANY

(a) Repair of Duc Xuyen airfield, directive 205-5345-1-11 remains the highest priority project that C Company has assigned. Two squads from the Second Platoon were kept at An Loc throughout the period. Work accomplished this period was pouring of 630 cu yds of sand cement to complete this phase. 265 cu yds of sand has been hauled to the site, mixed with RC-3 and spread in a 3-inch lift. 150 feet of M8A1 matting has been laid to date. During this period, a grader and a 2½-ton truck were transported to the site to expedite operations. Heavy monsoon rains, difficulty in obtaining air transportation and deadlined equipment have greatly delayed progress on the project and the completion that was anticipated during this period could not be realized. During this period 16,800 man-hours were used and 1075 equipment-hours bringing the respective totals to 23,634 and 1756. Project is about 80% complete and should be completed before standdown.

(b) Aircraft Revetments for CH-47, CD 205-5313-1-11 was assigned to C Company on 28 September 1969. The directive calls for the construction of two (2) each U-shaped, 55' long by 25' wide by 9' high revetments for Chinook helicopters at Camp Coryell, Ban Me Thuot. The project was assigned to the First Platoon and work was started on 6 October 1969. The materials were drawn and the floors and frames were prefabricated in the company area before they were moved to the site and erected and the sheet steel siding was placed on the frames. Currently all the structural work for the revetments is complete and the remaining work is the backfilling of the revetments. This will be completed prior to 1 November and the project closed out. 2090 man-hours and 265 equipment-hours have been expended on the project to date.

(c) Gun Pads, 5/22 Artillery was a project on which C Company expended considerable effort although the project is assigned to A Company. C Company hauled all the fill necessary to build an apron around the concrete pads and a berm to protect the pad area. Eight - 20' culverts were installed and drainage ditches were cut in the area. Work is now complete on the project. A total of 3515 cu yds of fill was hauled to the site and C Company expended 990 man-hours and 545 equipment-hours.

(d) Bunker Construction, HQ, C, D, 70th Engineer Battalion, CD 205-8400-0-11 was assigned to C Company on 8 July 1969 and completed on 12 September 1969. Although work was started last period, the majority of the work was done this period. C Company constructed four (4) of the concrete and wood bunkers, two (2) in HQ area and two (2) in C Company's area. The bunkers are 30'x20' with a concrete floor and 5' high concrete walls. The roof of the bunkers was of timber construction supported by timber posts that were placed in the concrete walls. A shower was installed in one of the Headquarters bunkers. A total of 7660 man-hours and 300 equipment-hours were expended on the project.

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(e) Although no work was accomplished this period, a project, rehabilitation of Ban Me Thuot ASP, CD 205-8385-0-11 was closed out this period. Work had been suspended on the project on 17 May 1969 pending the arrival of materials to be used as curbing in the cells. A decision was made to delete the curbing requirement and the project was closed out after 8 months of work. A total of 12,527 man hours and 3,607 equipment hours were expended on the project.

(f) Road Maintenance, CCS Area, directive 205-5306-1-11 is a project that was carried over from last period. No work has been done on this project during this quarter. No work is planned for the near future on the project.

(g) Combat support, directive 191-5301-1-11 was project assigned on 11 March 1969. During this period, two (2) missions were completed by C Company under this directive. Both missions were the clearing of an Artillery fire base. Fire base "Susan", which is about 15 kilometers south of Bu prong, was cleared for 5/27 Artillery and 1/92 Artillery. Fire base "Jerre" was cleared for 2/17 Artillery and was located south of fire base "Susan". In each case the work was completed by the Third platoon personnel. The larger trees were blown with C-4 and smaller trees and bamboo were removed with chain saws and hand tools. A total of 2140 man-hours was expended on combat support operations this period.

#### D COMPANY

(a) Early in August an element from this unit cleared an area north of Duc Lap at YU848878 for 5/22 Artillery. Approximately 200 trees were blown from an area approximately 300 meters in diameter. Also several large trees away from this area had to be blown in order to obtain unobstructed firing.

(b) During the first part of August D Company constructed fire base Dorrie for 5/22 Artillery. This fire base is located at YU991851 and consists of a 23'x30' personnel bunker, a 10'x25' fire control bunker, four 175 mm Howitzer positions and protective berms. The 200 meter diameter area also had to be cleared. The above work was done in three days but personnel were utilized throughout the quarter in maintenance of the camp due to the heavy rainfall.

(c) A 10-ton tractor with 25-ton lowboy trailer and D7E was utilized at a 5/22 Artillery camp and at a MACV compound. Both of these installations are at Duc Lap. This operation was conducted in September and lasted for three days. Work was done on berms, duster positions and on a trash dump.

(d) D Company personnel spent three days during the month of September at Camp Coryell, Ban Me Thuot. They were dismantling revetments for the 185th Aviation Company. In total, two H-shaped revetments were dismantled, the materials transferred to the G-4 yard at Camp Jerome

and fill from the revetments was stockpiled at the work site. Work was halted due to lack of construction materials. This project was picked up by A Company when they rejoined the battalion on 31 October.

(e) During the first week of September, D Company constructed another fire base for 5/22 Artillery. This was Fire Base Helen located at YU80-5631. The final base consisted of a 20'x20' fire direction center with an area cleared completely around the compound, a circumference of 500 meters. Fields of fire were also cleared beyond the berm to a distance of 150 meters.

(f) Near the end of September, D Company convoyed 30 cu yds of 3/4" (-) rock to the 32nd MACV Advisory Team at Gia Nghia.

(g) From 29 September 1969 through 11 October 1969, a six man element mineswept and cleared two areas, each approximately 250 meters in diameter, of trees ranging in diameter from two to six feet. This operation was performed near the MACV Advisory facility at Lac Thien.

(h) D Company constructed five, 20'x30' fighting/living bunkers at Camp Jerome during August and September. They have 5' high concrete walls, 8" thick and are for housing officers and senior NCO's.

#### 1ST PLT 630TH ENGINEER CO (LE)

The work of this platoon was restricted to LOC road work and construction support operations during the quarter.

#### (3) Base camp construction

Base camp construction slowed considerably during the quarter, with a hold placed on new vertical construction; and no new directives for Base Camp construction being received. Several projects, including the base camps of the 70th Engineer Battalion were closed out during this period. With the news that the Battalion was being redeployed, the directive also came to tear down Camp Jerome, and return the materials to supply channels.

#### A COMPANY

(a) The A Company Base Camp Construction directive was closed out on 30 September. As the camp was not a permanent installation, no transfer was made to the Installation Engineer.

(b) Due to the approaching monsoon season, A Company installed 18- and 24-inch culvert around the compound to promote good drainage and provide accessibility to areas of the compound such as the motor pool and the mess hall. Base course material was spread over the roads to build them up and make them more stable. Individual platoons installed additional bracing in the living-fighting bunkers to compensate for the added weight of wet sandbags on the roof.

(c) Parking Area Repair of Transportation Command, BMT East, CD 505-8389-0-11 was project carried over from last period that was completed on 29 August 1969. The work completed this period included the hauling and spreading of 245 cu yds of 3"(-) rock to complete the 62,000 sq ft parking area. Expended this period, were 155 man-hours and 80 equipment-hours bringing the respective total to 392 and 166 for the entire project.

(d) LSA Laundry Point, BMT, directive 505-8417-0-11 was assigned to C Company in September. The directive called for construction of a modified SEA Hut with a concrete floor to serve as a laundry in Camp Jerome. The project was started on 12 September 1969 and a concrete floor was poured. At this point a decision was made to locate the laundry at a different site due to the non-availability of a water supply at Camp Jerome. The floor was then used as a new site for the Battalion movie theater. A total of 380 man-hours and 55 equipment-hours were utilized on the project.

(e) Technical Assistance, SEA Hut Construction 5/22 Artillery, CD 505-5306-1-11 and 505-5307-1-11 are the projects that were assigned to C Company on 2 April 1969. Construction was stopped during last period and was not resumed this period. The assigned project consists only of technical assistance. The total number of SEA Huts completed remains at 28 of an authorized 46.

#### D COMPANY

(a) D Company was assigned the task of improving the lighting of Camp Jerome during this quarter. 45 new poles were added within the camp and also along the perimeter, light assemblies being installed on the latter. Approximately 10,000 feet of new wire was also strung. D Company also provided maintenance assistance for all Battalion lighting during the quarter.

(b) A new front gate for Camp Jerome was constructed and pipe from which to suspend a battalion sign was welded and made ready to erect.

(c) Throughout the period, Company maintained and improved their section of Camp Jerome's perimeter. Most significant was the erection of four guard towers. Grass was cut regularly, tin cans hung in the wire, claymores and trip-flares added and on several occasions the berm was improved through the use of D7E's.

(d) Maintenance was performed when necessary on the bridge and pre-fab yards, each located in the D Company area.

(e) Two latrines, each 6'x12', burn-out type, were constructed for HHC during this reporting period.

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(c) On 31 October, A Company moved into Camp Jerome, and D Company, 864th Engineer Battalion began to tear down the A Company Base Camp.

#### B COMPANY

The B Company base camp was also completed during the quarter on 30 September. Work after that date consisted of renovation and maintenance of the base camp. Included among these maintenance operations were:

(a) Living/fighting bunkers were renovated, additional bracing was added in each bunker, additional sand bags were added for protection and 12 bunkers considered unsafe were completely rebuilt.

(b) Offices were constructed by means of partitions in the mess hall and the TOC.

(c) A mortar pit was constructed for defensive protection and mortar illumination.

(d) 300' of drainage ditches were dug using backhoe and explosives.

#### C COMPANY

(a) Base Camp Construction, 17th Air Cav, Ban Me Thuot, East Field was a project assigned to C Company on 31 August 1969. Work was started on the same day in order to have ready for occupancy by nightfall. Twenty-four (24) temporary helicopter revetments were constructed by pushing up berms with a D7E and placing a rock lift of 3"(-) for the pad. A defensive berm of 1150 meters was pushed up with D7E dozers and approximately 40 acres were cleared to provide fields of fire. Technical assistance was provided in the construction of 1300 meters of perimeter wire, 19 fighting bunkers and a TOC. Frames for four latrines were prefabbed and erected at the site. Work was concluded on 10 September 1969 and a total of 860 man-hours and 280 equipment-hours were expended.

(b) Base Construction, Camp Jerome, CD 505-5305-1-11 was continued during this period by C Company. During this period, the last of the authorized construction was completed with the construction of one living/fighting bunker. Work was continued on battalion drainage with the installation of 254' of culvert of various sizes. The road around High Nest and HQ bunkers was completed and rock was placed in HQ's and C Company's motor pools. C Company erected four (4) guard towers with sleeping bunkers along its perimeter and assisted HQ Company in construction of their towers. A new fence was installed at the PX and the old fence removed. C Company also hauled and maintained a stockpile of 3"(-) rock within the base camp for use on various projects and in the base camp. In addition to the above, the normal maintenance and minor improvement were made to maintain and improve the appearance and comfort of the Base Camp.

(4) LOC Maintenance and upgrading

A COMPANY

A company, 70th Engineer Battalion's area of responsibility extends from Bridge 21/24 to Bridge 21/31. Within this area the company has been primarily concerned with: a. potholing the highway, b. construction of bypasses at the critical bridges, c. preparing abutments for the construction of permanent bridges and d. Assisting the 864th Engr Bn (Const) in asphalt operations along our area of responsibility.

(a) First platoon finished the work on bridge 21/29 with assistance from the second platoon and the 131st Engr Co (LE). Fill was hauled in using 290's and a vibratory roller was used for the compaction. The road over the three culverts is prepared but due to a low compaction test, it will have to be dug up and recompacted before the final surface can be applied.

(b) The second platoon, A company, has been preparing bridge 21/31 for a triple concrete box culvert. Two D7E dozers dug a trench west of the original bridge site where the concrete box culvert is to be placed. The bypass was moved 20 feet to the south to allow for the construction of the culvert in its new location. The second platoon aided the first platoon in pouring the abutments at Bridge 21/30. The second platoon also worked with D Company, 864th Engr Bn (Const) to dismantle C Company, 864th Engr Bn (Const) base camp.

(c) The Third platoon working on Bridge 21/30 poured the east abutment footer, poured both the east and west abutments, set the steel and constructed the superstructure using 8"x12" and 2"x6" material, thus completing the bridge. The approaches were completed by the 630th Engr Co (LE) with assistance from the Third platoon.

(d) potholing has been going on steadily for the past three months with the first platoon doing the majority of the work. Asphalt from the 619th Engineer company (CS) plant was utilized to backfill the potholes when available. When asphalt was not available, a cold mix consisting of 3/4 inch minus rock, sand, and RC-3 was used. The asphalt plant was in operation only briefly during this reporting period, so most of the backfilling was done with the cold mix. In conjunction with the potholing, the first platoon repaired four culverts which were damaged by the crews doing the shoulder repair work between bridge 21/30 and bridge 21/31.

B COMPANY

(a) Bridge 32 - From site preparation for abutment and wing walls at the beginning of this quarterly period, bridge 32 progressed to completion and was officially opened on 31 October 1969. Physical characteristics of the bridge are as follows:

(1) class 90 - 1 way, class 55 - 2 ways.

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(2) 5 steel stringers, 30 WPL08, with timber deck

(3) 40' length, 26'4" roadway width

(4) Two 2' walkways

(b) Bridge 33 - Bridge 33 was also completed during this quarterly period and was also officially opened on 31 October 1969. Bridge 33 possesses the same physical characteristics as Bridge 32 above.

(c) Bridge 36 - An addition to the footer was constructed. A rebar cage was constructed for the abutment and the abutment was poured. Beam seats were installed. The bridge is expected to be completed in early November.

(d) B Company also potholed along QL-21. Approximately 30 cubic yards of hot mix asphalt were used during the first part of August, but after that a cold mix had to be used. 125 cubic yards of cold mix were used for the remainder of the quarter in potholing operations.

#### C COMPANY

C Company did no work on LOC Maintenance and Upgrading during the quarter, as it is assigned most of the Combat/Operational Support missions of the Battalion.

#### D COMPANY

(a) D Company continued potholing operations this quarter throughout their AOR and also extending into B Company's AOR. Approximately 70 cubic yards of cold asphalt mix was utilized during this period.

(b) 110 cubic yards of 3"(-) was placed at the bypasses at Bridge 37, Bridge 38 and Bridge 38A. Rainfall had caused the roadways at these locations to begin washing away. The rock provided effective stabilization.

(c) A Gradeall was used at the Bridge 37 bypass to build a check dam to prevent road washout. The bridge was also reconned and the results delivered to G-3 for development of new plans.

(d) Bridge 38 was completed during this reporting period. Bridge opening ceremonies were conducted on 30 October 1969. The abutment forms were completed and the abutment was poured. 375 cu yds of blast rock, 105 cu yds of 3"(-) rock and selected local fill was utilized in compaction around the abutment and in building up the roadway. A 12.3 meter steel stringer bridge, complete with walkways and hand rails was constructed. 630th Engineer Company (LE) completed the bridge for opening by bringing the roadway up to grade.

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1ST PLATOON, 630TH ENGR CO (LE)

(a) The 1st platoon, 630th Engineer Co (LE), in addition to the approach work on the bridges already mentioned primarily concerned itself with shoulder work and the production of crushed rock from the quarry at Hot Rocks during the quarter, a total of 13,437 cubic yards of 3"(-) rock, and a total of 957 cubic yards of 3/4"(-) were crushed for use in the LOC Maintenance and Upgrade program. Maintenance problems with the crusher kept the production lower than expected.

(b) The monsoon season kept shoulder work to a minimum during this period. A total of 8 kilometers of shoulders were cut out and the base compacted. Rock was placed and compacted on 5 kilometers of shoulders.

131ST ENGINEER COMPANY (LE)

(a) There was little paving done in the area of operations of the 70th Engineer Battalion during the quarter, and none after the stand-down of the 131st Engineer Company (LE) on 18 August. Prior to that, a total of 6.8 kilometers were paved, using a total of 4,570 cubic yards of asphalt produced by the 610th Engineer Company (CS).

(b) prior to their departure, the 131st Engineer Company also worked on the base course for QL-21. During August, a total of 600 meters were prepared by scarifying the existing base course, adding 3"(-) rock, and compacting after an asphalt spray had been applied. At the time, all base course work which had to be accomplished was completed.

(c) during August a total of 540 tons of hot mix asphalt were used by the 131st Engineer Company (LE) as base course, using a modified grader to spread the asphalt and then compacting with a steel wheeled roller.

(5) Training

(a) during the last quarter, the Battalion Replacement Training program was expanded. A replacement now spends 3 days in the classroom. One week of field training in patrolling is given to 2 men from each company per week. The battalion trains 20 men in patrolling per month.

(b) The battalion also conducts mandatory training every Sunday morning for 2 - 3 hours.

(c) during the period 1 September - 15 October, the brigade consolidation month was held. The consolidation month program was pursued when rainfall prevented work on assigned projects. This program consisted of classroom instruction and improvement work on company facilities and defenses. The following is a breakdown by company of the actual hours expended on each consolidation area.

<u>AREA</u>	<u>COMPANY</u>				
	<u>HHC</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
Base camp defense	62	48	20	17	20
safety	11	5	5	1	5
Maintenance	11	14	13	10	13
Area improvement	30	15	10	15	10
Supply	7	10	5	10	3
Training	13	22	20	18	20
Construction Management	0	0	0	3	5

Consolidation Month proved beneficial in that it served to tighten many areas which had not received proper emphasis during the prime construction season.

e. Logistics

(1) Some critical equipment shortages were filled during the quarter. There are, however, still a noticeable number of critical items short for the battalion. These shortages are:

<u>Nomenclature</u>	<u>Auth</u>	<u>On Hand</u>	<u>Short</u>
distributor, Bituminous, tk mtd	1	0	1
Generator 3 KW AC	13	10	3
Generator 5 KW AC	2	0	2
Saw, chain	12	3	9
Truck, 5-ton dump	55	43	12
Tank and pump unit, liq disp tk mtd	6	0	6

(2) Tonnage and type of aircraft used during this quarter for supply and transportation of equipment are as follows:

<u>Aircraft</u>	<u>Tonnage</u>
UH-1D Huey	4 Tons
CH-54 Flying Crane	34 Tons

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<u>Aircraft</u>	<u>Tonnage</u>
CH-46 Chinook	15 tons

(3) during the period, the battalion operated three (3) water points. A company produced a total of 312,000 gallons; B company produced 380,000 gallons; and the battalion water point produced 393,000 gallons during the quarter.

- f. Force development: None
- g. Command Management: None
- h. Inspector General: None
- i. Information: None
- j. Civic Affairs:

#### A COMPANY

The district chief of Khanh Duong District asked that the entranceways into Khanh Chi Village be improved because of the large number of civilian vehicles stopping at the market place there. The entrances dipped below the grade of the road and the culverts running under them were damaged to the point of being almost non-existent. The first platoon of A company, 70th Engineer Battalion, constructed culverts using empty 55 gal drums and placed these culverts in the four entrance ways. They then back-filled the culverts with three-inch minus rock and base course material bringing the entrances to the grade of the road, thus permitting easier access to the village.

#### B COMPANY

B company and the 1st platoon, 630th Engineer Company, working in conjunction performed civic action duties in a number of ways.

(a) The Kloc memorial express way was completed by the 630th on the access road to MACV at Buon Ba Yang. The expressway runs from Qb-21 to Phuoc An District Headquarters. The work consisted of ditching, crowning and some rebuilding with local fill, over approximately 5 miles of road.

(b) A new road from the Lambretta station at Thuan Hai to Buon Khier B was out, filled and shaped from scratch to give the people of that Hamlet access to the main road. In order to build this road it was necessary to open a new laterite pit. The recon for a suitable location yielded an iron ore deposit so rich that after opening it up with the earth-moving equipment, the villagers are planning to tap the iron deposit.

(c) At Phuoc An District Headquarters the road was relocated and a day spent land clearing, opening up two additional acres of land to be incorporated inside the district compound. With the aid of a 290M a punji pit was dug around the new perimeter as the ARVN's erected the barbed wire entanglements. A highly successful joint effort toward the improvement of the base defense of Phu Kohn District.

From the Phuoc An District to the MACV compound the road efforts required major earthmoving to raise the existing road surface. After raising and shaping this last section of road to the MACV compound the entire length of road from QL21 to the compound was re-designated the Kloc Memorial Expressway to honor a nearby village chief.

The work ended with the construction and upgrading of the road from the MACV compound to the village of Buon Ba Yang B. In addition to major earthmoving this road work also required the assembly and placement of two culverts was done by the villagers under supervision of the Equipment NCOIC.

The entire project of approximately 15 miles of roadwork took approximately 1 month to complete by one section of the light equipment platoon assisted at various locations by ARVN Soldiers or Montagnard villagers. A highly successful attempt at area pacification by winning the hearts and minds thoroughly enjoyed by all that participated.

(d) Concurrently the other section of the platoon in between work on bridge approaches and shoulder work on QL21 was able to assist in the villagers in Buon Sant. Three 20 foot culverts were assembled and placed to provide vehicle access from the road to the village. With access gained the equipment moved inside the village compound to provide interior road upgrading and land clearing for placement of new buildings.

#### C COMPANY

ARVN dependent housing, directive 805-8557-0-11 was assigned to C Company on 20 May 1969 and is still an open project. The directive calls for equipment support and technical assistance, however, no effort was expended on this project during the quarter and no further effort is anticipated. Salvaged material from old guard bunkers that were torn out in Camp Jerome was made available to ARVN personnel.

#### 2. Section 2, Commanders Observations, Evaluations and Recommendations/ Lessons Learned.

a. Personnel: None

b. Operations:

(1) Perimeter Defense

(a) Observation: Tin can noise-makers placed in perimeter wire are often conspicuous from celestial light during the hours of darkness.

(b) Evaluation: The cans should be burned with a petroleum product. If the tin cans are painted instead of burned, some of their resonant qualities are destroyed.

(c) Recommendation: That these cans should be burned as stated. Small holes should be punched in the cans prior to burning. Heat greatly weakens the seams and subsequent punching or cutting invariably results in the entire lid falling out.

#### (2) Abutment Construction

(a) Observation: The situation made it necessary to mix concrete in one area and transport it across a gully to the abutment forms.

(b) Evaluation: It was evident that a chute would be necessary. Since the suitable mix would have to be pushed through the chute, it must be constructed to enable the support of several men, plus the mix.

(c) Recommendation: Using 30' utility poles as stringers at 4' c/c with 8' lengths of 4"x8" lumber at 24" c/c spanning across them, a structure was built capable of supporting the required weight. A catwalk of three rows of 3"x12" decking on either side of the chute provided an area for the personnel to work. All materials were able to be re-used after completion of the pouring operation.

#### (3) Perimeter Defense

(a) Observation: Vegetation within perimeter wire entanglements is always a problem.

(b) Evaluation: During this quarter, Dalapon, a water soluble herbicide, became available through supply channels. This necessitated the development of a mobile dispenser that could easily be constructed.

(c) Recommendation: A gravity dispenser was easily constructed from four, 55-gallon drums, 2 abreast and 2 high. Pipes with 2" interior diameter connect the two upper drums to the two lower drums. T's and elbows incorporate the solution of the two lower drums into a single 30' dispensing arm made from 3/4" interior diameter pipe. The greater the distance that this dispensing arm rests below the drums, the greater the issuing pressure. The end of the dispensing arm is capped, and 3/16" holes were drilled every inch in the 20' of the dispensing arm. The drums were braced with U-shaped pickets. This dispensing unit can be easily attached to most vehicles.

#### (4) Protective Berms Around Project Sites

(a) Observation: When working at a site which is in a low area where there is a problem with water draining or seeping into your work area, it is advisable to construct a protective berm around the site to stop the water.

(b) Evaluation: A protective berm will stop most of the water from draining into the job site, it will also provide an adequate place from which to operate equipment.

(5) Expedient Culverts

(a) Observation: When there is a shortage of steel culvert or the job doesn't warrant the use of steel culvert, a suitable culvert can be constructed from empty 55 gallon drums with both ends removed.

(b) Evaluation: When using 55 gallon drums for culvert it is best to weld the drums together and also weld struts at intervals around the barrel crossing the welded joint and perpendicular to it. These struts will prevent the drums from being broken apart under the stress of traffic.

(c) Recommendation: If you use the 55 gallon drums for culvert in place of the standard metal culvert, be sure that you connect them properly and they should last as long as the standard culvert.

(6) Concrete Form Bracing

(a) Observation: In bracing the forms for pouring an abutment, bolts were used to fasten the forms to the end dam, but there were no washers available.

(b) Evaluation: The top of an artillery canister, with a hole bored through it, is an excellent substitute for a washer.

(c) Recommendation: Expedient washers may be used when regular washers are not on hand, and, at times, even be better because of a larger bearing area.

(7) Bunker Construction

(a) Observation: Due to an excess of backfill on bunkers, a period of heavy rain caused severe strain on the structures.

(b) Evaluation: Evacuate the bunkers and rebrace to insure that the bunkers are safe.

(c) Recommendation: After rebracing - exercise caution and backfill only to an appropriate degree. One - two feet of cover will provide adequate protection.

(9) Use of Construction Equipment

(a) Observation: In attempting to use as much construction equipment as possible, personnel tend to concentrate on getting more equipment rather than evaluating the labor force at hand to see if they can be properly utilized with more equipment.

(b) Evaluation: When using two 16S mixer in pouring an abutment, for example, there must be available a sufficient number of personnel to keep both running smoothly or coordination of the two pieces of equipment will suffer.

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(c) Recommendation: Before trying to utilize more construction equipment on any given job, evaluate the available work force to see if they can handle it.

(9) Curing concrete properly

(c) Observation: Extreme heat and dry weather causes freshly poured concrete to dry rapidly.

(b) Evaluation: Concrete, in order to cure properly, should dry very slowly in order that it will not crack.

(c) Recommendation: A good way to keep freshly poured cement from drying too fast is place cotton burlap sandbags over the entire area and wet down every hour or two. A better way, if you have the material, is to wet down the cement and place clear plastic over the area. This will allow concrete to cure and harden slowly and cause less cracking.

(10) Deviation from Original blueprints

(a) Observation: Deviation from the original blueprints issued causes much time to be lost and materials are used ineffectively.

(b) Evaluation: When building NCO living bunkers, many changes were brought about in the middle of the job which caused unnecessary redoing of previously completed work.

(c) Recommendation: When a new idea or deviation from original blueprints issued are made, work should be stopped, new blueprints drawn up and put into effect in lieu of a haphazard plan due to material availability.

c. Training and Organization: None

d. Intelligence: None

e. Logistics: None

f. Other: None

FOR THE COMMANDER:

THE  
SIGNED

*W. J. Light*  
SIGNED  
W. J.  
Light

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EGA-CO (31 October 1969) 1st Ind


SUBJECT: Operational Report of 70th Engineer Battalion (C)(A) for Period  
Ending 31 October 1969, RCS CSFOR-65 (R1)

DA, Headquarters, 35th Engineer Group (Const), APO 96312, 23 November 1969

TO: Commanding General, 18th Engineer Brigade, APO 96377

1. The Operational Report - Lessons Learned of the 70th Engineer Battalion (Combat) for the quarter ending 31 October is an accurate account of the unit's activities. The 70th Battalion was tasked to accomplish several combat support missions during the period and all these priority missions were accomplished in a timely manner.

2. This headquarters concurs with the observations and recommendations of the Battalion Commander.

  
HARRY A. GRIFFITH  
COL, CE  
Commanding

AVBC-CG (31 October 1969) 2nd Ind


SUBJECT: Operational Report of the 70th Engineer Battalion (Combat)  
for the Period Ending 31 October 1969, RCS CSFOR-65 (R2)

DA, HEADQUARTERS, 18TH ENGINEER BRIGADE, APO 96377 16 DEC 1969

TO: Commanding General, U.S. Army Vietnam, ATTN: AVHGC-DST, APO 96375

1. This Headquarters has reviewed the Operational Report - Lessons Learned for the 70th Engineer Battalion (Combat), as indorsed by the 35th Engineer Group (Const). The report is considered to be an excellent account of the Battalion's activities during the reporting period.

2. This Headquarters concurs with the observations and recommendations of the Battalion and Group Commanders.

  
J. W. MORRIS  
Brigadier General, USA  
Commanding

CF:

1 - CO, 35th Engr Gp

1 - CO, 70th Engr Bn

AVHGC-DST (31 Oct 69) 3d Ind

SUBJECT: Operational Report of 70th Engineer Battalion (C)(A) for period ending 31 October 1969, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOF-DT, APO 96558

This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 October 1969 from Headquarters, 70th Engineer Battalion (C)(A) and concurs with the report as indorsed.

FOR THE COMMANDER:



M. A. Chodura

Assistant Adjutant General

Cy furn:  
70th Engr Bn  
18th Engr Bde

GPOP-DT (31 Oct 69) 4th Ind

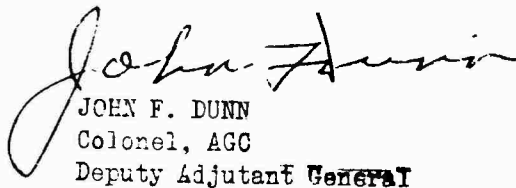
SUBJECT: Operational Report of HQ, 70th Engineer Battalion ( Combat)  
(Army) for Period Ending 31 October 1969, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 6 JAN 70

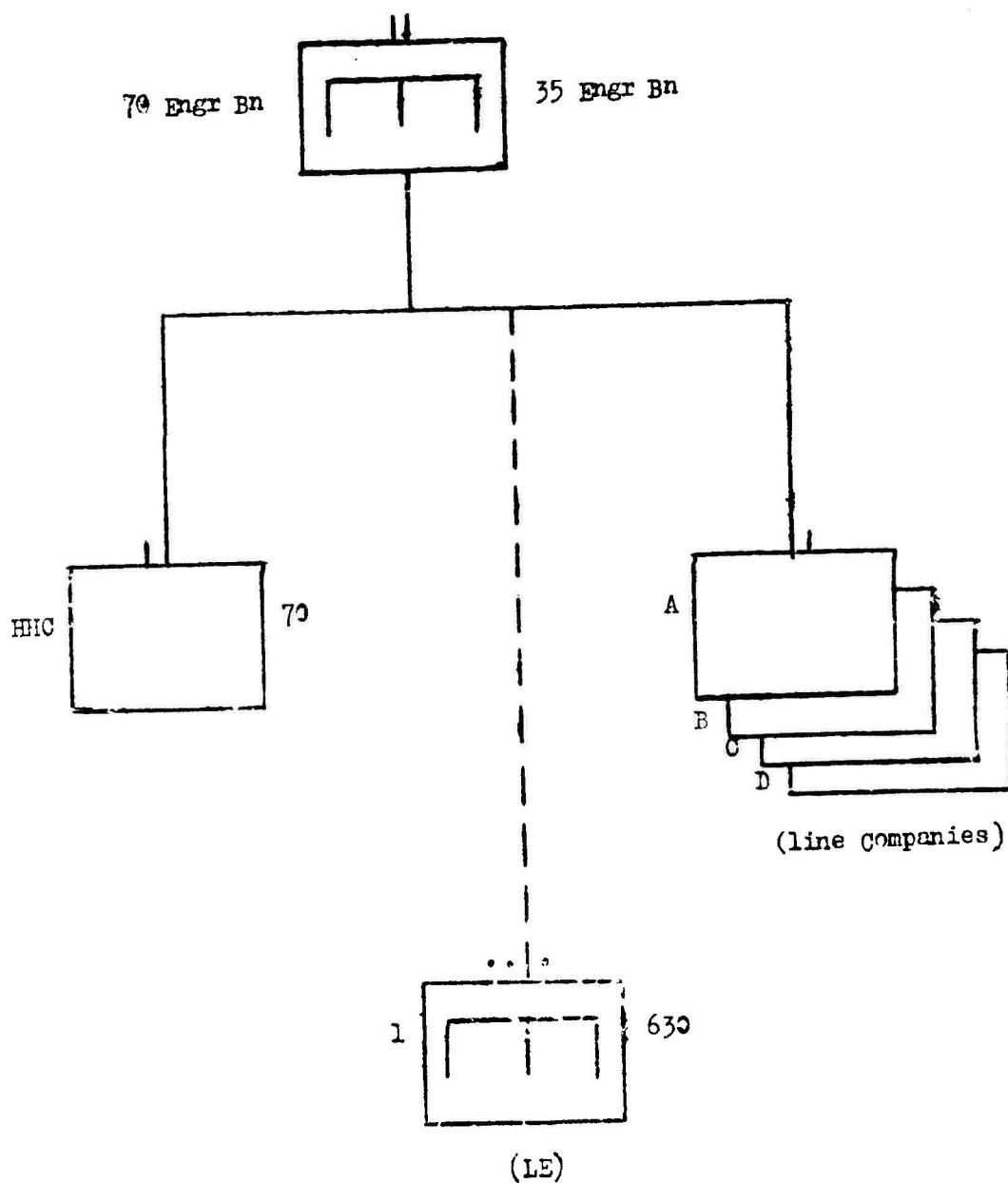
TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

  
JOHN F. DUNN  
Colonel, AGC  
Deputy Adjutant General

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